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A. C. TRUE, Director.

FARMERS' INSTITUTES FOR YOUNG PEOPLE.

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[Cir. 99]

LETTER OF TRANSMITTAL.

U. S. Department of Agriculture,
Office of Experiment Stations,
Washington, D. C., August 19, 1910.

Sir: I have the honor to transmit herewith and recommend for publication as a circular of the Office of Experiment Stations some data and a discussion entitled "Farmers' Institutes for Young People," prepared by John Hamilton and J. M. Stedman of this Office.

The circular calls attention to the lack of adequate means for giving vocational training in agriculture to young people in the rural districts after they leave the public schools and before they enter upon their life occupations. As a partial remedy for this it recommends to state directors, local managers of farmers' institutes, and others interested in rural improvement that they assume responsibility for informing these young people along the lines of agricultural and domestic science practice, and that they utilize the institute organizations for this purpose.

Respectfully,

A. C. True,
Director.

Hon. James Wilson,
Secretary of Agriculture.

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FARMERS' INSTITUTES FOR YOUNG PEOPLE.

INTRODUCTION.

Out of every 500 young people in the country districts in the United States only 1 ever enters an agricultural college. Of every 100 rural and urban children only 5 ever reach the high school, and only 6 ever go beyond the elementary schools. Ninety-four out of every 100 children therefore finish their education with the district school.[a] Inasmuch as these 94 children include those in cities and towns as well as those of the country districts, and since city and town children continue longer in school than do those of the country, it is safe to say that fully 97 out of every 100 rural boys and girls finish their education with the district school.

In order to reach the 499 out of every 500 rural boys and girls who can not go to an agricultural college, and yet in whom some attachment for and interest in rural life should be inculcated, there has developed quite generally a demand for the introduction into the rural schools of subjects that will educate in the direction of appreciation of rural life and its opportunities instead of confining the teaching as hitherto to studies that ignore the country and direct the scholar's attention to the occupations of the towns and cities.

AGRICULTURE IN THE RURAL SCHOOLS.

The first effort to meet this demand was made by the town and city schools through the introduction of topics which later were all embraced under the term "nature study." After the value and practicability of this new feature in education had been demonstrated by the towns and cities, rural school authorities became interested and a few of the more progressive introduced it into their course of studies.

The rural school began its work of agricultural instruction by directing the scholars' attention to some of the simplest and most common natural objects in the neighborhood of the school itself. Gradually this was extended to critical observation of various phenomena in the growth and development of plants and animals. Later, elementary text-books on these and other subjects connected with rural life were introduced and studied.

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[a] Annual Report of the Commissioner of Education (1906, Vol. I, p. xiii); Twelfth Census of the United States; U. S. Dept. Agr., Office Expt. Sts. Circ. 84.

Among the country schools, however, only the most favorably situated have been able to conduct even elementary work along this line. There are several reasons for this. The subject is new in school work with children, and the majority of public school teachers are not prepared to give instruction in agriculture because until recently there was no demand for such instruction and consequently no provision had been made either for qualifying a teaching force for imparting it or for equipping the schools with suitable apparatus. There is also the further difficulty that the teacher of the single-room school, even though capable in this new line of study, has not the time necessary in which to give the instruction unless vacation and holiday periods are utilized for the purpose, and the vast majority of rural school districts are not financially able to support an additional teacher. The consolidated rural school, however, promises to overcome some of the chief difficulties that have hitherto hindered the development of this work, and is now opening the way for the introduction of the teaching of agricultural subjects into the country schools.

THE PURPOSE OF THE MOVEMENT.

The purpose in this movement by the elementary schools, so far as it has definite aim, is to awaken in boys and girls an interest in farming and domestic operations by bringing them to see and appreciate the beauty, independence, and general desirability of rural life. By the proper study of these subjects mental culture can also be secured as effectively as by the exclusive use of the so-called disciplinary studies, while at the same time a broader view and better appreciation of life is imparted to the pupil.

BOYS AND GIRLS' CLUBS.

As a part of the course in education for children of public school age, a system of "clubs" has been organized in many sections by rural teachers and county superintendents of schools, intended to interest the pupils in country life and at the same time be of service in preparing them for their future work, whether that work be on a farm or in some other occupation or profession. The club is usually composed, both as to membership and officers in immediate charge of the work, of children in the public schools. The organization, however, is subject to general oversight by the teacher in charge of the school. The club activities are mainly in the form of contests in judging grains and animals, with some field work, such as growing corn, potatoes, or similar crops. The field operations are restricted to quite small areas, and to comparatively few varieties of products. The fact that the work for the most part is confined to young people who are in the rural schools practically limits it to children under 14 or 15 years of age, and the agricultural teaching during this period, whether in class or through the agricultural clubs, is of necessity restricted to such instruction as the young woman in charge of the school can find time to give outside of her many other duties as teacher of the regular and specified studies that the curriculum requires.

If, as statistics show, the education of the country child with few exceptions ceases with the rural school, it follows that the great body of young people of the country are left without special training that will give them *practical* acquaintance with the business operations of a farm.

FARMERS' INSTITUTES FOR YOUNG PEOPLE.

In order, therefore, that opportunity to become acquainted with agricultural operations may be given to those who have left the public school and from whose ranks the future farmers and their wives must be supplied, the farmers' institutes in several States have organized and are now conducting what are known as "institutes for young people." The majority of these, however, are not as yet institutes in the sense in which the work of the farmers' institute has come to be defined. They are in reality boys and girls' clubs conducted in the same manner as those organized and operated by the public schools.

That the institutes should have taken up the work for young people along lines similar to those of the schools is not surprising when it is considered that the movement has just begun and the best methods of dealing with it have not been clearly outlined or thoroughly developed. The great need among young people beyond the school age for agricultural instruction was so urgent that it could not be longer delayed, consequently the institute undertook to do what it could to supply that need without waiting to make thorough previous study of the conditions or of the methods best adapted to improving these conditions. It simply started, and then following the lines of least resistance, which have been the methods that were pursued by the schools, it has gone on until now a radical departure from these methods is seen to be necessary and is proposed.

Because of the fundamental difficulty in securing teachers capable of giving vocational instruction in agriculture in the rural schools, and from the fact that after the scholars leave school no provision has been made for giving them opportunity to receive such instruction, the farmers' institute has undertaken the training in agriculture of rural children after leaving school. In doing this it has found it necessary to drop from its system of instruction the purely educational feature and devote itself strictly to giving vocational instruction. Such studies and practice, therefore, as the institute utilizes, have in view the perfecting of the individual in his vocation. The institute system, therefore, partakes more nearly than any other of the trade-school method, and is intended for youth above 14 years of age. It differs from the work carried on by other agencies employed in training country youth in that its primary object is to build up a better agriculture by teaching young people methods for increasing crops, improving animals, restoring worn-out soils, and disposing in a profitable way the products of farms. It is undertaking to teach youth *how to make money in agriculture.* It is endeavoring to do this by giving them information respecting the raising of crops, the breeding and care of animals, and by bringing them to appreciate the value of organization and cooperation in securing enlarged political and commercial advantages as well as better social and intellectual privileges and by teaching them how to secure and use these advantages. By undertaking this work the farmers' institute will occupy a field separate and distinct from all others, and one which is not now covered by any other organization. It will become the connecting link between the agricultural club movement by the schools on the one hand and the regular farmers' institute for adults on the other.

METHOD OF INSTRUCTION.

The method best adapted to giving vocational information is still to a great extent unknown, and can only be discovered through the careful study of rural conditions and of the characteristics of rural youth and of their relation to country life. That an effective method ought to be had is now evident to all. When it will be had will depend upon the seriousness with which the whole matter of the vocational training of country youth is regarded by those who are in position to provide it.

The fact that there can be no physical compulsion exerted in bringing those who are to be reached to attend upon any course of teaching makes it necessary to employ other methods for securing their attendance and attention. There are at least two characteristics in the rural youth that can be depended upon to respond to proper appeal—ambition and love of gain. With respect to the first, young people are naturally interested in a subject or exercise when presented in the form of a contest. Their plays for the most part are of this nature. When properly planned and conducted such exercises not only interest young people, but they possess in addition features of great practical and educational value. They stimulate the creative faculties of the contestants, teach the relation between cause and effect, develop power and desire to do things, show how to apply previous knowledge derived from books or school to solving the problems of life, and by keeping the mind occupied with useful purposes they stimulate to further and more determined effort.

The contest method, therefore, has wisely been adopted by the institute for awakening interest and creating enthusiasm among young people in agricultural operations. In this direction lie great possibilities. To fully realize these possibilities and benefit by them the institute should study to discover additional subjects suitable for competitions, and of value in the improvement of rural affairs. The number of such subjects in use at present is extremely limited, being confined, in crops, almost wholly to corn; in animal husbandry, to stock judging; and in domestic science, to the preparation of a few of the simpler articles of food. Exercises of this nature should be extended to other lines of rural activity, and be utilized by the institute for instructing in a much wider range of agricultural operations.

SUBJECTS FOR INSTITUTE STUDY.

The subjects that can be successfully studied in institutes for young people cover a wide range and may ultimately include the entire field of rural life. Since the institute is dealing with boys and girls who for the most part are without much experience, and while the subjects studied must be treated in a way to be intelligible to them, yet it by no means follows that because the pupils are not of full age the teaching and the truths taught must be correspondingly elementary. On the contrary, since the several subjects to be treated are almost wholly economic, involving difficult problems in farm practice and administration, it is of extreme importance that only the very best teachers that the institute authorities can secure shall be provided, in order that the instruction may be of the most reliable and useful character that science and experience can recommend.

It is not possible to give a complete list of the agricultural and home-making studies that may profitably be undertaken by institutes for young people, much less to attempt to teach them all. Such a list would include every known object bearing directly or indirectly on rural life.

While the farm presents problems most complex and difficult to be thoroughly understood, on the other hand many of its operations are apparently so simple that they seem to require no particular thought or skill for their performance, and consequently come to be regarded as of minor importance.

Many of the manual processes are of this character. They are largely matters of practice, or operations repeated until a degree of dexterity is acquired in their performance. The general lack, however, of both knowledge and skill on the part of many of those who engage in these everyday operations is very marked when their performance by an ordinary worker is compared with the rapidity and perfection of their execution by an accomplished expert.

With a view to improvement in this direction the institute for young people should offer prizes for superior skill and proficiency in manual processes, and should hold competitive exhibitions at which dexterity and skill would be recognized and rewarded. The most common manual practices in need of general improvement are the operations of milking, grooming horses, wood chopping, fence building, corn husking, ditching, draining, grain shocking, hay and grain mowing and stacking, fruit gathering, fruit grading, fruit packing, whitewashing, spraying, pruning, plowing, horseshoeing, sheep shearing, setting up machinery, cotton chopping, cotton picking, cooking, baking, canning, preserving, dressmaking, house decorating, papering, millinery, and similar everyday matters, all requiring skill, the exercise of good judgment, and discrimination for their proper performance, while some demand a highly cultivated æsthetic taste.

In order to increase interest and at the same time to instruct young people, the gathering of collections provides a valuable means and should be encouraged. Specimens of rocks, soils, grasses, grains, weeds and weed seeds, vegetables, flowers, fruits, insects, etc., furnish material for such collections.

The list of contests also could be extended to the preparation of papers and the holding of oral examinations upon subjects requiring wider culture, knowledge, and experience than those just mentioned. Such a list might embrace farm management, orchard management, landscape gardening, vegetable gardening, flower gardening, practical housekeeping, the preparation of balanced rations, also papers upon local history, on the local fauna and flora, local geology and geography, local laws, local markets, sanitation, etc.

Premiums could be offered for reports on experiments or demonstrations conducted on seed selection and improvement; school garden work, labor-saving conveniences, and also to individuals for the best school record for the year; for a review of some bulletin or agricultural book; for the most money made by the pupil's own exertions; for the best exhibit of agricultural products; for the best crop of not less than an acre of corn, wheat, rye, oats, potatoes, or vegetables grown by himself; for a complete diary of a year's operations on a farm; for the best-kept set of books of account; for stock judging and other forms of judging, etc.

The county or state fair also might offer premiums for the successful competitor in subjects that bear on the general improvement of agriculture in the region, especially such as relate to plant and animal breeding, cattle feeding, dairying, bee keeping, sheep raising, poultry rearing, egg production, fruit growing, etc.

In addition to the subjects discussed in the meetings, the institutes for young people should outline courses for home reading, taking up definite groups of subjects or lines of work, and should assist the readers in obtaining bulletins and other publications from their state experiment stations and the United States Department of Agriculture. The institutes might also include a brief systematic course in the generally neglected but most important subjects of farm bookkeeping, local laws, local history, farm management, etc., and they might discuss the advantages and operations of cooperative associations organized for the purpose of buying and selling and for securing the more economical transportation and distribution of farm products.

DIRECTIONS FOR CONTESTS.

In contest work a necessary preliminary is a carefully prepared plan, giving full directions for carrying out the various operations which the contest embraces, the method of judging, and the nature of the awards. These plans and directions should be prepared by competent experts, and the various points to be observed should be stated fully and clearly, so as to be unmistakable and readily understood by the average young person of 14 years of age. The plans, specifications, and forms of score cards used in judging should be printed in leaflet form and be distributed as widely as possible among the young people of the community whom the institute is endeavoring to reach. Each leaflet should deal with a separate subject and be a complete outline of the method of treatment to be followed.

SYSTEMATIC COURSE IN CONTEST WORK.

The contest feature of the young people's institute should be graded so as to be as far as possible a complete and progressive course. When completed a certificate should be given stating the work performed by the contestant during the period in which he was a member of the institute.

The course should begin with a simple exercise like the growing of some common crop and end with the more difficult, as a daily record for twelve months of the operations of a farm, with comments on these operations, and a set of books showing the loss or gain of the enterprise for the year.

The series of courses should embrace cereal crops, staple crops, forage crops, root crops, garden vegetables, greenhouse and hothouse management, marketing products, etc., requiring for graduation the completion of the course. By thus systematizing the instruction experience would be had along all lines of farm operations. A similar course should be prepared for contest work in domestic science and household art. An outline of such course is given on page 38 of this circular. (See also outline of course for boys on page 25.)

By the method of pursuing a systematic course for four or five years the practical work of the young people's institute would be preparatory to their undertaking the larger operations of a farm or home, and instead of the contest exercises being disconnected and incomplete, as now, they would be systematized into a course that would cover the principal operations of a farm and be of real service in the future life of the contestant.

PRIZES.

It has been found by experience that young people are greatly attracted and influenced by rewards, and that they value these rewards far above their worth in cash. A trip to the state fair, the present of a well-bred calf, a trio of chickens, a magazine subscription, a set of books, a medal or certificate of proficiency, all have been tested and found to be strong incentives to enter competitions and carry them out to the end. Expenses of a short course at the college of agriculture or of a summer outing at a young people's encampment are some of the more expensive as well as the most beneficial prizes that have been offered.

Money for prizes can usually be secured without difficulty by applying to public-spirited citizens in the community for contributions, many of whom are glad of the opportunity to assist worthy young people in any effort that they may make to better their condition and become more useful citizens of the State.

BOYS' ENCAMPMENTS.

In a few States the farmers' institute and the college of agriculture, by conducting what are called boys' encampments, have interested in agricultural subjects many boys who would not join the ordinary club contest. The camping-out idea appeals to them as a pleasant and enjoyable diversion, and the lectures, demonstrations, and judging contests which form a part of their daily life for the week or two during which the camp is held are pursued with pleasure as well as profit. Their interest is aroused by the scientific features of subjects which they have never before understood and which are here exhibited in their relation to the practical. Many boys who otherwise would never have been reached are thus started in search of further useful information. These boys' encampments are, strictly speaking, young people's institutes. The members live and study together during the entire meeting; prizes are awarded for winners in stock, grain, and similar judging contests, and for proficiency in other agricultural subjects as determined by a final examination of the work pursued at the encampment.

FORM OF ORGANIZATION.

As but few institutes of the character proposed for young people have heretofore been held, no single plan of organization has been put into practice to serve for present or future guidance, nor is it likely that any one plan ever will be followed by all the States. Each State has its own special form of farmers' institute, differing from those of other States in order to adapt it to its own particular needs. Institutes for young people will no doubt, therefore, usually be adapted to those organized for adults, with such modifications as are necessary to fit them for the new form of work.

For a while at least institutes for boys and girls should be union meetings, with special sessions for each sex as occasion may require. The membership should be restricted to persons over 14 years of age and should not as a rule include those over 18 or 19 years. Whether there shall be a single institute for a county or one for every township or school district can be determined as the work develops and the needs of the young people seem to demand.

While attendance upon the institutes is of necessity voluntary, yet it is important to effect, as early as practicable, an organization in each locality composed of a membership that can be depended upon to attend the meetings and to assist in carrying on the work. To accomplish this it will be necessary to secure pledges from as many as possible to a form of constitution that embodies these obligations. In order to assist those who have not yet undertaken the organization of such institutes a form of constitution is given on page 24 in the appendix of this circular which is intended to be suggestive and to be modified to suit the varying conditions of the several States.

Interest in institutes for young people should not be limited to farmers. The support of business, professional, and public-spirited men generally is necessary to make the movement a success, and this support is more likely to be given if the institutes are planned to include town as well as country boys and girls. Merchants, lawyers, doctors, mechanics, and tradesmen should be invited to assist.

CONTROL OF THE INSTITUTE.

Institutes for young people should be under the direction of the farmers' institute authorities. Where "county" farmers' institute organizations exist the immediate control should be vested in them. Where there are no such organizations the control should be directly under the "state" farmers' institute, which in some instances is a separate organization and in others is a branch of the state department of agriculture, the college of agriculture, or the experiment station.

The time and place of meeting, the outlining of programmes, the selecting of speakers, and all other arrangements for the young people's institutes should be under the direction of the regular farmers' institute, and the expenses should be paid by that organization. The institute for young people will thus become a branch of the regular farmers' institute, organized and conducted entirely by it. It will not only be a true farmers' institute of a grade advanced beyond the boys and girls' clubs, but it will also be instructed by expert teachers and have distinct courses of study prepared for giving instruction along vocational lines.

SEASON FOR MEETING.

In organizing for the work that the young people's institute is to undertake provision should be made for holding at least three meetings during the year—one in the early spring, another in midsummer, and a third in the late autumn. The first or spring meeting should be for instruction along lines that are to be put into practice and followed during the summer. The autumn meeting should be devoted more especially to a discussion of the results obtained from putting the information received at the spring meeting into practice and for judging contests and the awarding of prizes. The midsummer meeting might in addition be made a field meeting or an encampment at which the exercises would mostly be in connection with observation of growing crops and the examination of farms, orchards, herds, and flocks in the neighborhood where the institute or encampment is held.

The instruction should be by lectures and demonstrations, given by competent institute speakers, much in the same manner as is now practiced in dealing with adults, and special effort should be made to induce free discussion of the various points that the speakers present.

INSTITUTE LIBRARY.

Every young people's institute organization should be provided with a library of reference consisting, along with books of general reading, of bulletins, pamphlets, and other books by recognized authorities upon agriculture and domestic science. This library should be in charge of the county institute and be available for use by all young people belonging to the institute organization of that county. When special publications are needed for any purpose the secretary of the institute should endeavor to secure them by gift, purchase, or loan. He should also furnish the young people of the institute organization with lists of books relating to agriculture, domestic science subjects, and rural affairs.

FARM CLUBS FOR BOYS AND GIRLS UNDER INSTITUTE CONTROL.

While farm clubs for children under 14 years of age can best be organized and conducted by the public schools, there are some States where the schools have not yet undertaken this work and others in which, although it has been begun, there still are districts where clubs have not yet been organized.

In such States and in such districts the farmers' institute can materially assist in inaugurating the movement for the introduction of agriculture into the public schools by giving information to teachers, county superintendents, and parents respecting this kind of work, and may go to the extent of organizing and conducting clubs as samples of what the schools should do in this direction.

As soon as the institute has organized such a club and has succeeded in interesting a group of children of school age and their teachers in contest work, it should turn it over to the school authorities for further attention and control. The school being on the ground and having to do with the child's education for the greater portion of several years, is in position to take charge of the club and guide its operations far better than any other organization. Children, therefore, of school age (10 to 14 years) should be committed to the school authorities for agricultural club work during the period of their connection with the school. After leaving school, the farmers' institute for young people can take charge and give them the special vocational training that they need to become proficient in the practical operations of the farm.

The form of organization to be adopted by the institute directors for these clubs is primarily that of the club as organized by the public school, and since the work is assumed only temporarily or until the school is ready to take it off the hands of the institute people it should possess the characteristics of the club as organized for school purposes.

A form of constitution and outlines of contests for these clubs may be found in the appendix of this circular. Fuller information as to their organization and conduct may be had by referring to Farmers' Bulletin 385, "Boys and girls' agricultural clubs."

THE OPPORTUNITIES.

Hitherto the farmers' institute has devoted its energies almost exclusively to interesting adults in agriculture and household art. It has selected its subjects for discussion and chosen its instruction with this in view. A new field of activity has suddenly opened up, one that is altogether unoccupied and for which no adequate provision has yet been made—the vocational training in agriculture of country youth between 14 and 18 or 19 years of age.

After 14 the public school does not and, as at present constituted, can not reach the majority of rural youth with agricultural instruction. What the secondary schools may ultimately accomplish in this direction has not yet been revealed. In the meantime these youths are growing up, many of them with no proper appreciation of country life or of its advantages and opportunities in a business way over those of the towns and cities. The farmers' institute can change all this by modifying its present methods to suit the ages, needs, and degrees of advancement of these youth. It should avail itself of the opportunity now presented and occupy this field. By doing so it will not only be following out the purpose of its organization, but will also perform valuable service in the present effort for the development of agricultural education and become an important factor in shaping the future of the world-wide movement for agricultural extension now under way.

STATES AND TERRITORIES IN WHICH YOUNG PEOPLE'S INSTITUTES ARE ORGANIZED.

The extent to which institute directors have gone in promoting this new feature in institute work is given in the following abstracts of reports received from the various States and Territories. These reports show that 20 States and Territories held institutes for young people in 1909. In some of the States institutes of this character were held by the colleges of agriculture or by some other organization without the cooperation of the farmers' institute. All such institutes are omitted from the list here given and only such included as were under the auspices of the institute authorities or with their cooperation.

Arizona.—While there were no true boys and girls' institutes or contests in 1909, yet many afternoon sessions of the regular farmers' institutes were held in schoolhouses for the purpose of reaching young people. In such instances the children averaged about three-fourths of the audience, and while no special programme was provided for the boys and girls exclusively, the regular talks were so modified as to be perfectly intelligible to them. The farmers' institute organization also held three short courses in dairying lasting four weeks at three different high schools, with an attendance of 75 in one school and 135 in another. The children were practically all either high-school or eighth-grade pupils. The work is reported as having been unusually successful and was received with enthusiasm.

Arkansas.—The college of agriculture of the University of Arkansas, which has charge of the farmers' institute work, has now organized boys' corn clubs which are local and are managed by the counties. The college, however, cooperates with the counties by sending out judges, using for the purpose money from its contingent fund. The boys are expected to exhibit their products at the county and state fairs, and must be under 20 years of age.

Georgia.—Since the spring of 1906 the farmers' institute, which in Georgia is under the control of the college of agriculture of the state university, has conducted boys and girls' clubs with marked success. The work has grown to such proportions and importance that a man has now been employed to devote his entire time to this movement. Thus far the subjects taken up have been corn growing and judging, cotton growing and judging, and poultry raising and scoring. No separate meetings for girls have been attempted up to this time, but they have been encouraged to join the work with the boys. Permanent county organizations are to be formed, and the cooperation of the county school commissioners is sought. The local work is directly under their care, the extension department of the college sending representatives to visit the commissioners, consult and advise with teachers, and assist in organizing the boys and girls into clubs. Regular farmers' institutes for boys and girls are held once and sometimes twice a year in each county where a boys and girls' club is organized. The meetings usually last one day. Contests are held and prizes awarded. The farmers' institute organization sent representatives to 60 teachers' institutes last year in order to awaken an interest in this work among them and enlist their support and cooperation. About 500 were enrolled in boys and girls' institutes last year. The expense to the college of agriculture for this service was $1,500, including prize money, which was added to by local gifts.

Illinois.—For several years the Illinois farmers' institute has promoted instruction in agriculture for boys and in domestic science for girls, and has aided the county superintendents of schools and the county farmers' institute officers, who are directly in charge of this work. In some counties the work is done by the institute officers themselves, while in others these officers enlist the cooperation of teachers and county superintendents of schools. Nearly one-half of the 102 counties held boys and girls' institutes or clubs last year. The contests are usually held in connection with the regular farmers' institutes, one session of which is devoted to children, the boys and girls meeting jointly. In many instances the first prize was a trip and attendance upon the two weeks' course at the college of agriculture of the state university. More than one-third of the counties were thus represented last January. The subjects taken up last year were corn-growing contests, corn-judging contests, and sewing and cooking contests. Boys' encampments were also held.

Indiana.—The school of agriculture of Purdue university is intrusted with the general supervision of the state farmers' institute work. Each county has a farmers' institute association which is responsible for the institute work in that county. Boys and girls' institutes are held as a part of the regular institute work, although usually as separate sessions, and are financed by the county associations, which by law are allowed to use the expense account funds for the awarding of contest prizes. One county appropriated $1,000 last year for boys and girls' institute work. Donations from institutions and individuals have constituted the chief source of income for this work, but no accurate record of the exact amount is now available. The county chairmen of the county institute associations and the county superintendents of schools usually cooperate in this boys and girls' movement and organize the clubs.

The work with young people was started in 1905 and is now active in about one-third of the counties, 45 of them having organized clubs, while several more hold contests. There are now 12,000 members in the State. Speakers and judges are sent out by the state superintendent of institutes whenever practicable, chiefly from the college of agriculture. The work is reported as having been very gratifying indeed. Corn has been the principal subject studied by the boys and butter and bread by the girls. As a rule, the premium for first prize at the county contest is a trip to attend the farmers' short course at the State School of Agriculture at Purdue University with all expenses paid.

Iowa.—Each county in Iowa has its own farmers' institute organization which is independent of all others and entirely under local management. Several county institutes have been holding boys' stock and corn judging contests and domestic science contests for girls.

Kansas.—The farmers' institute work is in charge of a department of the college of agriculture, and a special man has recently been appointed to look after the work with boys, and a lady to conduct the domestic science work with girls. Contests for boys and girls in agriculture and domestic science have been held separately from the regular institute meetings, although sometimes a session has been devoted to this work. Boys and girls are divided into two classes according to age, one including those from 10 to 14 and the other those from 15 to 21 years. It is expected that this phase of the institute work will greatly increase now that the State has made such a liberal appropriation, amounting to about five times that of any previous biennial period.

Kentucky.—The state farmers' institute organization of Kentucky has just inaugurated the work with boys and girls. Seed corn was distributed to boys and girls in ten counties who grew it according to directions, and competed for prizes at the contest held in the fall in connection with the county farmers' institutes. The exhibit corn became the property of the State, and is to be redistributed as seed next spring. The judges were furnished by the experiment station, and they also talked on corn and explained why the decisions were made. These boys and girls' institutes are entirely under the control of the county farmers' institutes, no other organization cooperating in the work. The state department of agriculture furnished the instructors and financed the undertaking.

Maryland.—Very little work has been done with boys and girls by the farmers' institute of Maryland, but talks on corn and cooking have been given by institute speakers at schools for the children, and a few corn contests have been held for the purpose of awarding a free scholarship to the course at the college of agriculture.

Michigan.—For a number of years the farmers' institute has held boys and girls' contests in about a dozen counties. The work has always been managed by the county farmers' institute association and the county commissioner of schools in cooperation. The subjects heretofore taken up have been grain and potatoes for the boys and bread and sewing for the girls. The exhibition of products and judging and awarding of prizes takes place at the county farmers' institute. The best samples are taken to the state round-up institutes, where the State Corn Improvers' Association awards special prizes for corn. A number of counties have arranged to have special instruction in corn culture given to the boys who are intending to enter corn contests. No special institutes for boys or girls have been held, but in fully 50 places the schools were dismissed during the afternoon sessions, which, together with the evening sessions, were arranged to be of special interest to boys and girls. At these sessions the commissioners of schools furnished special speakers. The county farmers' institute associations have always looked after the local expenses and the prizes.

Minnesota.—The experiment station has charge of the farmers' institute work in Minnesota, and in 1906 inaugurated boys and girls' clubs which have been well received and attended. These meetings are not held as a part of the regular farmers' institutes, but are separate and distinct, and are under the immediate supervision and control of the county superintendents of schools in each county. The county fair association also cooperates in the contests, which are frequently held at the county fairs. The subjects taken up have been wheat, corn, oats, onions, carrots, potatoes, apples, cooking, and sewing. Forty-four counties are now carrying on this work, and contests were held in most of these last year. Prizes for contests are usually obtained from private subscriptions, while other expenses are paid for out of the regular institute fund. The farmers' institute employs a special man during part of the year whose sole duty is to visit and talk at boys and girls' clubs, hold meetings, and consult and advise with the county superintendent of schools, teachers, officers, and interested parents, and aid in every way possible to further improve and expand this work. He also attends the contests and county fairs, judges the entries, and gives his reasons for making the different awards, thus reaching many people not previously interested in boys and girls' institute work. Other officers from the experiment station also assist in the judging and instruction whenever expedient. The winners of the first six prizes in the county contests are eligible to enter the state industrial contest. The age limit has been fixed at 18 years. Last year there were 148 meetings of boys and girls' institutes with a total attendance of 12,400 not including the county contests. The farmers' institute fund furnished $800 toward the expenses.

Mississippi.—Regular and systematic work with boys and girls' clubs was started last year in Mississippi by the state farmers' institute, which is under the control of the college of agriculture. One man now devotes his entire time to this movement in cooperation with the United States Department of Agriculture The county superintendents of education are given direct supervision of the work, while the farmers' institute, the extension department of the college of agriculture, the United States Department of Agriculture, the farmers' union, and the live stock and other associations all cooperate to make the boys' and girls' agricultural and household work a success. The farmers' institute furnishes speakers and judges most of whom are from the college of agriculture and experiment station. Thirty-two counties now have boys' corn clubs and stock-judging contests, and some of them also have girls' domestic science clubs. The total membership is now about 6,000. A permanent organization is sought. The age limit is from 10 to 21 years. The best exhibits from the county contests are taken to the state fair. Boys and girls meet together, but as a rule these meetings are separate from the regular farmers' institutes. The farmers' institute is closely associated with the agricultural high-school work also, and holds a short course in agriculture at each agricultural high school during the year.

Missouri.—The farmers' institute of Missouri first began systematic work with boys and girls in 1907, although prior to that time the institute lecturers had frequently given special talks to schools in some towns where an institute was being held, and in a few instances had held a session especially designed for the children. Last year three boys' camps were held at which 586 were in attendance, and corn and stock judging were the subjects pursued. Sewing and cooking contests for girls were also held. The contests for boys and those for girls are usually held together. Prizes are awarded. Two classes are recognized, those under 15 and those under 20 years of age. The cooperation of the county superintendent of schools is sought. The instructors and judges are usually obtained from the college of agriculture. The expenses are paid from the regular farmers' institute fund.

Nebraska.—The farmers' institute, which is in charge of the college of agriculture, and the state department of public instruction jointly supervises the boys and girls' institute or club work, which was started in 1905, and has now grown to embrace nearly every county in the State. The county superintendents of schools are as a rule the county organizers and managers, and enlist the active support of the rural school teachers, and those of the towns interested. The farmers' institute and the state department of public instruction jointly publish bulletins to aid the boys and girls in their work, and also to guide the superintendents and teachers in organizing and conducting institutes, clubs, and contests. The college of agriculture sent out speakers and judges to the county contests, of which 33 were held last year with an attendance of 9,266 boys and girls, while 50 counties are now carrying on the work.

A variation from the regular stereotyped grading and judging work has been introduced in the form of experimental work with corn, such as the ear to the row test, soil fertility, and date of planting. The girls will work in sewing and making garments. The college of agriculture will hold, during the week of the state meetings of organized agriculture, a short course in agriculture and domestic science lasting one week for delegates from each county holding a contest. The state board of agriculture and the State Improvers' Association are cooperating in the boys' and girls' work financially and otherwise, and have arranged for a special judging contest for boys at the state fair.

New York.—The farmers' institute of New York, which is under the management of the state department of agriculture, has been doing work with boys and girls for several years; but it has been of a different nature from that now done by the institute in most States. No contests or club work are attempted, these being carried on by the college of agriculture; but the institute, in cooperation with the state department of education, which furnishes one speaker for each meeting, holds institutes for boys and girls in the schools of the towns where the regular farmers' institutes are held. Besides the speaker furnished by the department of education, there are also one, two, or three institute speakers who address the children on agricultural subjects, such as seed selection, milk testing, mammals, birds, crops, etc. These boys and girls' institutes are nearly as numerous as the regular institutes themselves, since they are held at every place visited. About 275 were held last year. Principals and school teachers are notified in advance when the institute will be held in their locality, and the interested boys and girls of proper age are taken to the meetings.

North Carolina.—Beginning with January, 1909, the state farmers' institute began to hold meetings for boys from 12 to 18 years of age in order to instruct them with regard to the growing of corn, and to hold competitive contests and award prizes for the greatest yield per acre. The work will be continued, and the cooperation of the school system and other organizations sought.

North Dakota.—The farmers' institute cooperates with the extension department of the college of agriculture and with the county superintendents of schools in furthering the work with boys and girls which was started about five years ago. Whenever possible, regular farmers' institutes are held at the places where the contests occur, which is one each year in a county. County superintendents of schools organize and supervise the work, and are largely responsible for its success or failure. There are no state contests. The work is therefore purely a county affair, and as no permanent organization is attempted its existence in the county is dependent upon the attitude and enthusiasm of the county superintendent of schools, and therefore differs from time to time. The college of agriculture sends strawberry plants, seed corn, potatoes, etc., to the county superintendents of schools, who distribute them to the children interested in this work, and these children, together with their teachers and parents and other interested parties, meet once each fall to judge and award prizes, which are contributed by business men in the neighborhood and by the county superintendent personally. Whenever practicable, speakers are sent from the college of agriculture to attend these contests.

Oklahoma.—The Oklahoma farmers' institutes plan to cooperate with the college of agriculture, county superintendents of schools, and women's auxiliaries in the effort that is being inaugurated by the college to organize boys and girls' clubs and contests. It is proposed to hold the annual county meetings of boys and girls in connection with the regular farmers' institute meetings, and to there exhibit, judge and discuss the products, and to give instruction in agriculture and along household lines in order that children and parents may both profit by the work and become mutually interested in it.

Pennsylvania.—About two years ago the farmers' institute of Pennsylvania began to hold separate sessions devoted to boys and girls in those localities where the county agricultural societies, farmers' clubs, county superintendents of schools, and teachers were interested enough in the work to get the young people together. In a few instances competitive exhibits were made, and these were passed upon by the regular institute speakers and prizes awarded, consisting of money, live stock, and farm implements. Corn and poultry were the subjects usually taken up.

South Dakota.—The farmers' institute has been doing more or less work with young people for three years. One five-day institute devoted entirely to boys and girls was held, with an examination on the fifth day at which local people contributed prizes. The boys were instructed in stock and grain judging, and the girls in baking, needle work, care of the body, and home hygiene. In a number of cases boys' corn shows have been held in connection with the regular farmers' institutes. The regular speakers act as judges. About 15 counties have organized for conducting boys' and girls' contests. The county fair associations are actively cooperating in this work, and are offering prizes that are very attractive to the children.

Virginia.—In very few cases have regular farmers' institute meetings been held in connection with boys and girls' contests. These contests, are, however, numerous and doing excellent work, but thus far they have been managed by the state department of public instruction in cooperation with the school system and without any effort on the part of the farmers' institute.

Washington.—The farmers' institute, which is a branch of the work of the college of agriculture, cooperated with the Oregon Railway and Navigation Company last year in holding meetings and demonstrations for boys in four counties and in organizing corn clubs in which they compete for prizes offered for the best yield of corn on one-fourth acre and for the best ten ears selected from competing tracts. Five hundred and thirty-six boys registered for this work.

Wisconsin.—For several years a few regular farmers' institute meetings have devoted a part of their time to special work with boys and girls where the local people requested it. Essays by young people on different lines of farm work, as well as exhibits of grain, vegetables, and baking products, have added to the interest in the work, which has been successful, especially where an active local person has been behind it.

APPENDIX.

CONSTITUTION FOR COUNTY FARMERS' INSTITUTE FOR YOUNG PEOPLE.

Article I.—Name.

Section 1. The name of this organization shall be the ——— Farmers' Institute for Young People.

Article II.—Objects.

Section 1. The object of this institute shall be to assist and encourage useful education among young people respecting life on the farm and in the home; to develop the agricultural resources of the county by means of farmers' institutes especially adapted to young people between the ages of 14 and 18; to cooperate with the county and state farmers' institute organizations; to teach, by lectures, demonstrations, and other means, better methods in general farming, stock raising, dairying, fruit culture, and other branches of agricultural industry, including domestic science and home economics; to interest young people in country life; and in general to promote the moral, intellectual, social, and material welfare of the community.

Article III.—Membership.

Section 1. Any resident of the county between the ages of 14 and 18 may become a member of this institute by signing the constitution and meeting the conditions of the by-laws.

Article IV.—Officers.

Section 1. The officers of the institute shall consist of a president and a secretary-treasurer, who shall also be members of the state or county farmers' institute and shall be appointed by and represent these organizations.

Article V.—Duties of Officers.

Section 1. It shall be the duty of the president to preside at all meetings of the institute and to have general supervision over its work in the district.

Sec. 2. It shall be the duty of the secretary-treasurer to keep a record of each institute, to keep a roll of the members and the post-office address of each, and to conduct all correspondence relating to the business of the institute. At the close of the institute he shall make out a detailed statement of its expenses and send it to the local representative of the farmers' institute of the county, and at the close of the year he shall make out a similar report giving also the time, place, and duration of each institute, the number of sessions held, the attendance at each session, and the total attendance, and shall transmit this report to the director of the state farmers' institute. It shall also be the duty of the secretary-treasurer to act as librarian and to assist in obtaining bulletins and other agricultural literature for the members. It shall further be the duty of the secretary-treasurer to personally or through a committee arrange for securing a hall in which to meet, prepare the local programme, and attend to such other matters as may be necessary to the success of the institute.

Article VI.—Duties of Members.

Section 1. It shall be the duty of the members to attend every session of each institute during the institute year, and to perform the duties assigned.

Article VII.—By-Laws.

The institute may enact such by-laws, not in conflict with its constitution, as may be necessary.

Article VIII.—Amendments.

This constitution may be altered, amended, or repealed by a vote of two-thirds of the members present at any regular annual meeting after due published notice for two weeks prior to the meeting in at least two of the papers of the county, if so many there are.

COURSE IN CONTEST AND PRACTICE WORK.

The following is suggested as a course in contest and practice work in a farmers' institute for young people (boys), extending over a period of five years.

First Year.

(*a*) Corn growing.
(*b*) Wheat, oats, barley, and cotton selection.
(*c*) Feeding, milking, and caring for not less than two dairy cows.
(*d*) Flower gardening.
(*e*) Berry growing.
(*f*) Feeding and caring for not less than ten chickens.

Second Year.

(*a*) Planting and cultivating cereal crops and cotton with selected seed.
(*b*) Feeding and caring for not less than two beef cattle.
(*c*) Experiments in the application of fertilizers to corn.
(*d*) Experiments in the effects of cultivation of the soil.
(*e*) Fence building and hedge trimming.

Third Year.

(*a*) The planting, caring for, and handling of grass and forage crops.
(*b*) Feeding and caring for not less than two swine and two sheep.
(*c*) Feeding and caring for not less than ten ducks and ten turkeys.
(*d*) Practical work in draining and irrigation.
(*e*) Farm bookkeeping.
(*f*) Farm architecture.

Fourth Year.

(*a*) Planting and caring for root, cucurbitaceous, fiber, and tobacco crops.
(*b*) Stock judging.
(*c*) Fruit culture.
(*d*) Vegetable gardening.
(*e*) Laying out farms.
(*f*) Work with machinery and power motors.

Fifth Year.

(*a*) Studies in local and state history.
(*b*) Studies in local law.
(*c*) The marketing of produce.
(*d*) Studies in sanitation.
(*e*) Studies in rural school improvement.
(*f*) Agricultural exhibitions and fairs.

FORM OF CONSTITUTION FOR BOYS' (GIRLS') CLUB.

[Used in Indiana.]

Article I.—Name.

The name shall be the Boys' (Girls') ——— Club of ——— Township, ——— County, ———.

Article II.—Objects.

The objects shall be: (1) To gain knowledge of the best methods of agriculture (to gain knowledge of household economics); (2) to prepare for the annual contest conducted by the farmers' institute organization; (3) to secure literary culture; and (4) to acquire a working knowledge of parliamentary usage.

Article III.—Members.

Any boy (girl) between the ages of 8 and 14, living within the county, may become a member by signing the constitution and paying the annual dues.

Article IV.—Officers.

Section 1. The officers shall be a president, vice-president, recording secretary, corresponding secretary, treasurer, critic, and doorkeeper.

Sec. 2. The officers shall be elected by ballot at the last (annual) meeting of the club each year. They shall take office the first meeting of the ensuing year and continue until their successors are duly elected.

Article V.—Duties of Officers.

Section 1. The duties of the president, vice-president, secretary, and treasurer shall be those which usually appertain to these offices.

Sec. 2. The president shall appoint members to fill any vacancies that may occur by resignation or removal. The critic shall call attention to mistakes in language, gesture, and general bearing of those who take part in the formal proceedings of the club; look up and report upon disputed points as to grammer, choice of words, pronunciation, and parliamentary usage. The doorkeeper shall see that the place of meeting is kept comfortable, tidy, and properly ventilated, and look after the comfort of the members and any invited guests.

Sec. 3. The president, vice-president, and recording secretary shall be the executive and also the programme committee of the club.

Article VI.—Duties of Members.

It shall be the duty of the members to attend each meeting of the club, abide by its constitution and by-laws, and perform every part assigned by the president or by the programme committee. Absence or nonperformance of duty, due to sickness or other unavoidable cause, shall be excused.

Article VII.—Dues.[a]

Section 1. The annual dues, payable at the opening of each year, shall be: For members under 12 years old, 10 cents; 12 and under 15 years, 15 cents; 15 and under 18 years, 20 cents; 18 years and over, 25 cents.

Sec. 2. Three months' arrearage in dues will forfeit membership, but the member in arrears may be reinstated by a majority vote of the members present at any regular meeting, and payment of dues.

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[a] The dues may be uniform if preferred.

Article VIII.—Meetings.

Section 1. The club shall meet on the ——— (first, second, third, or fourth) Saturday in ——— (Name the several months in which the meetings will be held), at ——— (Name of the club headquarters).

Sec. 2. The hour of meeting shall be fixed by the programme committee.

Sec. 3. The date or place of meeting may be changed temporarily by vote of the majority of the members present.

Sec. 4. A special meeting may be called at any time by the president upon written request of five members.

Article IX.—Order of Business.

(1) Call to order.
(2) Roll call.
(3) Reading minutes of previous meeting.
(4) Reports of officers (for annual meeting only).
(5) Reports of committees.
(6) Miscellaneous business.
(7) Appointment of committees.
(8) Special order of the day.
(9) Adjournment.

Article X.—By-Laws.

The club may enact such by-laws, not in conflict with this constitution, as may seem necessary.

Article XI.—Parliamentary Guide.

Robert's Rules of Order.

Article XII.—Amendments.

This constitution may be amended at any regular meeting by a two-thirds vote of the members present, provided notice of the amendment was presented in writing at the previous regular meeting.

ORDER OF TOPICS FOR BOYS' INSTITUTE (CORN).

The following, suggested by the Indiana farmers' institute, will illustrate a good order of special topics to be pursued at a season's course of meetings.

First meeting.—The selection of seed corn from the standing crop—when, how, and why. Members will bring desirable and undesirable types of stalk and ear for study and comparison.

Second meeting.—Points of excellence in corn—study of the score card. Members will bring various types of ears for illustration, and shell certain ears to get the percentage of corn and cob.

Third meeting.—How to use the score card—an exercise in scoring ten ears of corn by each member.

Fourth meeting.—Comparison of home varieties of corn with the standard ear (as approved by the corn growers' association for the neighborhood in case such an association exists, otherwise by the state corn growers' association) as to length, circumference, proportion of corn and cob, color of grain and cob, regularity in rows, and uniformity in size and shape of kernels, filling out of ends, etc.

Fifth meeting.—Testing and grading seed corn. Members will exhibit or demonstrate methods used. A second exercise by each member in scoring corn.

Sixth meeting.—Preparation of soil, planting and culture of corn to secure perfect stand and greatest yield.

CORN CONTEST REQUIREMENTS.

[Used in Indiana.]

1. All contestants shall be between 10 and 20 years of age.
2. Each contestant shall agree to make a special study of scoring, selecting, planting, cultivating, and harvesting corn.
3. Each contestant shall grow a plat of corn each year. (Size of plat to be determined by club.)
4. Each contestant shall plant, cultivate, and gather his or her own corn.
5. Each contestant shall keep, according to an outline adopted by the club, a record of the details concerning the plat, work done, and number of bushels harvested. (See record card below.)
6. Each contestant shall write an essay of not over 400 words on corn growing.
7. Each contestant shall select a sample of ten ears of corn grown on his or her own plat and exhibit them at the annual corn show of the club.
8. Each member shall take an active part in the meetings of the club when requested, and shall do everything that will make the club a success.
9. No contestant shall obtain through purchase or otherwise any corn for exhibition other than that grown on his or her own plat.

RECORD CARD (CORN).

The following record should be carefully kept and filled out by each contestant in compliance with the fifth requirement under the by-laws of the club:

1. Contestant's name..
    P. O. address......................., Rural route.......................
2. Variety of corn planted...
3. Source of seed..
4. Method of handling seed from time of gathering the previous fall to planting time
    ....
5. Vitality of seed:
    How tested..
    Percentage of germination...
6. Plat:
    Length in feet................. Width in feet.......................
    Area in square feet............ Kind of soil........................
    Kind of subsoil...............
7. History of plat:
    Crops grown there for three years previous to time of planting...........
8. Fertilizers applied during three years previous to time of planting:
    Kind....................... Amount...........................
    Kind....................... Amount...........................
    Kind....................... Amount...........................
9. Fertilizers used this year:
    Kind....................... Amount...........................
10. Preparation of seed bed:
    Date of plowing...
    Cultivation...

Implements.	Time used.
....	....
....	....
....	....
....	....

11. Date of planting..
12. Name of planter used..
13. Distance between the rows...
14. Distance between stalks in rows if drilled................................
15. Number of kernels per hill planted..
16. Cultivation:

Number.	Date.	Depth.	Reason.
1	....	....	....
2	....	....	....
3	....	....	....
4	....	....	....

17. Kind of cultivator used...

HARVEST TIME.

18. Number of stalks in plat:
    Barren..............................
    Smutted.............................
    Suckered............................
    Two-eared...........................
19. Stand of corn in plat:
    Average number of stalks per hill.....................................
20. Date the corn matures:
    Roasting ear..
    Dented or glazed..
    Ripe..
21. Height of corn (measure 10 average plants and take the average):
    ....feet............inches.
22. Total number of leaves on 10 plants, each taken from different hills..........
23. Yield:
    Bushels on plat.....................
    Bushels per acre....................
24. Cost of producing corn:
    Value labor of boys at 12 cents per hour..............................
    Value team and boy at 25 cents per hour...............................
    Cost of plowing..................hours at..................per hour.
    Cost of preparing seed bed........hours at..................per hour.
    Cost of manure or fertilizer..
    Cost of seed..
    Cost of planting.................hours at..................per hour.
    Cost of cultivation:
        Harrowing....................hours at..................per hour.
            1st cultivation..........hours at..................per hour.
            2d cultivation...........hours at..................per hour.
            3d cultivation...........hours at..................per hour.
            4th cultivation..........hours at..................per hour.
        Hoeing.......................hours at..................per hour.
        Other cultivation............hours at..................per hour.
        Cost of husking corn.........hours at..................per hour.
        Cost of harvesting fodder....hours at..................per hour.
        Rental value of land for corn.....................................
        Total cost..
        Yield of plat....................bushels.
        Cost of producing 1 bushel of corn................................
        Cost of producing 1 acre of corn..................................

SCORE CARD FOR SEED-CORN EARS.

Used in Minnesota.]

Points noted.	Standard score.	Sample No. ... score.	Sample No. ... score.	Sample No. ... score.	Sample No. ... score.	Sample No. ... score.
1. Market condition	10					
2. Form of ear	15					
3. Size of ear	5					
4. Uniformity and variety of characters	10					
5. Tips of ears	10					
6. Butts of ears	10					
7. Kernel:						
Uniformity	5					
Shape	5					
8. Color:						
Grain	10					
Cob	5					
9. Space between rows and kernels at cob	3 2					
10. Per cent grain to ear	10					
Total points	100					

STANDARD POINTS FOR CORN.

There are a number of varieties of corn. Each of these varieties has a certain set of characters that are different from the characters of other varieties. Therefore there must be a set of standard points for each variety. For example: The form of the ear of flint corn is different from the form of the ear of dent corn. These different characters are recognized by a corn judge as quickly as a cattle judge sees the difference between a Jersey and a Holstein.

Rules and Explanations of Points.

Each entry or exhibit shall consist of 10 selected ears.

MARKET CONDITION.

The ears should be thoroughly mature, dry, and sound, and should feel firm when taken in hand. The kernels must not be injured by mice or worms or by mold; neither should they show any rotten or cracked places. They should have a good, bright appearance and have a large germ.

Rule.—If the ears have any of these faults, they should not be given the full 10 points, but be scored according to the extent of the defects. For example: If the defects, such as cracked kernels, mold, and decay or rottenness, amount to about as much as one whole ear and the rest of the corn on the ears is good, the mark should be 9. If it amounts to more than one whole ear and not enough for two ears, mark the exhibit 8½ or 8¾ upon market conditions, etc.

FORM OR SHAPE OF EAR.

The best formed ears are nearly the same size at the tip as at the butt. The rows of kernels should run straight from butt to tip. Twisted rows show bad form. The ears can be as long or big around as they can be found, but the length and the circumference must be proportional—that is, an ear must not be too big for its length. The tips and butts of the ears should be blunt and well filled with kernels.

Rule.—There is no definite rule for judging the shape of the ear. Always have a perfect-shaped ear in mind and mark the sample according to how near the 10 ears come to being perfect. Make due allowance for variety characters.

SIZE OF EAR.

The size of the ear depends upon the standard for the variety being judged. For example: Minnesota No. 13 should be 8 inches long and 6 inches in circumference. No smaller dimensions will be accepted.

Rule.—Measure the length of each ear. If an ear is less than standard, put down the amount it is less than the standard. When all 10 ears are measured, add the amounts that are lacking. Then take one point off the standard for each 2 inches thus obtained. For example: The standard is 8 inches—

	Inches.
Ear No. 1 is 7.5 inches long, therefore 0.5 inch short	0. 5
Ear No. 2 is 8.5 inches long, therefore nothing short	. 0
Ear No. 3 is 8 inches long, therefore nothing short	. 0
Ear No. 4 is 7 inches long, therefore 1 inch short	1. 0
Ear No. 5 is 7.75 inches long, therefore 0.25 inch short	. 25
Ear No. 6 is 8.25 inches long, therefore nothing short	. 0
Ear No. 7 is 7.25 inches long, therefore 0.75 inch short	. 75
Ear No. 8 is 7.5 inches long, therefore 0.5 inch short	. 5
Ear No. 9 is 9 inches long, therefore nothing short	. 0
Ear No. 10 is 8 inches long, therefore nothing short	. 0
Total short	3. 0

Therefore 1.5 points should be taken from standard. This makes the score 3.5 points for the exhibit.

In the same way the circumference may be measured with a tape line and the shortage figured and cut accordingly. The measurement should be made a little below the middle of the ear

VARIETY CHARACTERS.

The color of the grain and of the cob, the shape of the kernels and of the dent in one variety are different from others. Therefore these are called variety characters. The ears in the exhibit should be true to the breed represented.

Rule.—Any characters that do not represent the breed must be counted as against the exhibit and some must be counted off for the lack of exact breed characters.

TIPS OF EARS.

The tips of the ears must be well filled with kernels and well rounded like a fork handle, not tapering like a horn. The end of the cob must be entirely covered.

Rule.—If the entire end of the cob is exposed, cut off 1 full point for each ear thus found. If little of the cob is seen, or the kernels are not of good size and shape, cut off as much as is thought proper.

BUTTS OF EARS.

These should be even and smooth. The rows of kernels must extend over the edge of the butt. The hollow, left after breaking off the shank, should be saucer shaped, and of medium size. The butt must not be large and open nor small and shrunken.

Rule.—According to how much the judge thinks that the butts of the 10 ears lack of being perfectly formed butts, he cuts little or much from the score card.

KERNELS.

Uniformity and shape.—All the kernels should be alike in size, color, and other characters. The best shape is what is known as the wedge shape, with nearly square corners at the top and sides. This shape fills the cob best and gives the most shelled corn per ear. Round-top kernels or round kernels like those found at the tips of the ears are objectionable. The germs should be large.

Rule.—With the blade of a jackknife pry out 2 kernels from each ear and lay them in a line, points down, in front of the ears from which they were taken. Look them over and push out of line those kernels that are different from the majority. Since there are 5 points for uniformity, each 4 kernels make 1 point. Therefore take off 1 point for each 4 kernels that do not remain in the line, or if there are 3 or 4 types cut more accordingly.

Do the same way to get the score on shape of kernels. Leave only the good, wedged-shaped ones in the line, and mark off 1 point for each 4 kernels not left in the line.

COLOR.

Grain and cob.—Whatever the color of the variety is it must be bright and clear. This indicates freshness and good quality. Sometimes a yellow ear of corn will have white or red kernels and white corn will have yellow kernels. Also yellow corn may have a white cob or a white corn a red cob, but this is not a true variety character. They should be all of one color.

Rule.—Cut 1 point for every 4 kernels of different color from that of the variety. Cut one-half of all the points if a red cob is found in white corn or a white cob in yellow corn, unless the cobs are all of the same color and it is common to the variety.

SPACE.

The space between the kernels is caused by the shape of the kernels. The rounded corners and sides make spaces between the kernels which should be filled up. When there is a good deal of space the percentage of grain to ear is not as large as it should be.

Rule.—Examine each ear and keep in mind the relative amount of space found in each. When all the ears are examined make an estimate of about how much lost space there is altogether and cut the score accordingly.

PERCENTAGE OF GRAIN TO EAR.

The amount of shelled corn is an important point in an ear of corn. In most varieties of corn there is from 80 to 85 per cent of shelled corn to the ear; that is, in 100 pounds of corn 80 to 85 per cent is shelled corn and from 20 to 15 per cent is cobs. It is important to have a high percentage of corn per ear, as this means a big yield per acre.

Rule.—Take 5 of the ears from the exhibit and weigh them carefully on a grocery scale. Then shell them, being careful not to lose any of the kernels. Weigh the cobs and subtract this from the weight of the 5 ears. The difference is the weight of the shelled corn. By dividing the total weight of the shelled corn by the weight of the 5 ears, the percentage of grain to ear is obtained. For example: The 5 ears weigh 6¼ pounds, or 100 ounces; the 5 cobs weigh 1 pound, or 16 ounces; the shelled corn is 5½ pounds, or 84 ounces. Eighty-four divided by 100 equals percentage of grain to ear.

With the standard as 85, cut 1 point for each per cent less than standard. Thus the above example of 84 per cent would be marked 9 on the score card.

GETTING TOTAL SCORE.

Add the scores of the different characters and the number thus obtained will be the score of the exhibit. Compare the scores of all the samples and those with the highest scores are sure to be the best ones for seed.

SCORE CARD FOR SEED WHEAT.

[Used in Minnesota.]

Points noted.	Standard score.	Sample No. .... score.	Sample No. .... score.	Sample No. .... score.	Sample No. .... score.	Sample No. .... score.
1. Weight per bushel	25	....	....	....	....	....
2. Uniformity and purity	10	....	....	....	....	....
3. Color	15	....	....	....	....	....
4. Plumpness	25	....	....	....	....	....
5. Condition of bran	5	....	....	....	....	....
6. Market condition	20	....	....	....	....	....
Total points.	100	....	....	....	....	....

EXPLANATION AND RULES OF SCORE CARD.

An exhibit shall consist of 1 peck of selected grain and 12 selected seed heads with stalks at least 6 inches long.

To select the 12 heads, watch the field from the time the wheat begins to head until it is ripe. When an extra good head is found mark the place with a stake and tie a small white rag on the stalk of the selected head. In this way mark 50 or more heads that come out first and grow tallest and have the largest, best-filled heads. Harvest all of these and then select the 10 best from them. Make a small bundle of the selected heads and tie the bundle loosely just below the heads and tightly at the base of the stem.

WEIGHT PER BUSHEL.

The standard weight is 60 pounds per bushel. Any sample weighing less should be given a lower score than the standard.

RULE.—By means of a testing kettle get the weight per bushel. This may also be determined by weighing very carefully an even peck of the grain, then multiplying by 4, the number of pecks in a bushel. If the sample has a weight less than 60 pounds per bushel, *cut 1 point off the score card for each pound less than the standard.* Thus, if the sample weighed 55 pounds per bushel it would score only 20 points.

UNIFORMITY AND PURITY.

This is an important point in all grain intended for seed purposes and should be closely observed. The size and shape of the kernels will often help in judging the purity of the seed. For example: Fife and blue-stem wheat kernels are different. The one short and thick and the other long. All the kernels should closely resemble each other.

RULE.—To judge the score of uniformity of a sample examine it closely and estimate the relative amount of difference in size and in shape. Then judge about how near it comes to being pure. *Cut the score according to how near the sample comes to being perfect.*

COLOR.

The color of wheat has much to do with the quality. For example: If it has been frequently wet with rains, or has been heated in the bin, or has been frosted, the natural color is changed and the seed has been somewhat injured. Good seed wheat has a hard, flinty, clear color and good luster.

RULE.—Keep in mind what perfect wheat should look like. Then see how near the sample comes to your idea, and mark accordingly. *It is very seldom that a sample is marked perfect.*

PLUMPNESS.

The plumpness of wheat is important to millers in making flour. The plumpest kernels have the most flour. For seed purposes plump grain is the best and gives larger yields.

RULE.—The rule for judging this point is the same as for judging color. See about how near the sample comes to being perfectly plump and *cut the score card in proportion to what it lacks in being plump.*

CONDITION OF BRAN.

If the bran or seed coat is wrinkled, the milling qualities are reduced. The cause for the wrinkled condition may have been such as to injure the value of the grain for seed purposes.

RULE.—*Cut the score card according to the extent of the wrinkled or otherwise injured condition of the bran.*

MARKET CONDITION.

Under this head are considered the amount of diseased or injured kernels and the dirt. All injured seeds are detrimental to the grain for seed purposes, therefore no such seeds should be found in samples of seed grain. Smutted or moldy kernels, cracked kernels, and dust or dirt should not be tolerated in seed grain.

RULE.—*Cut the score card according to the amount of dirt and dust and the number of diseased or otherwise injured kernels.*

ADDING THE SCORE.

Add all the scores given under the six heads. The sum of these will be the standing or score of the sample. After all the samples have been judged, the scores can be compared and the best ones picked out of those with highest score.

SCORE CARD FOR SEED OATS.

[Used in Minnesota.]

Points noted.	Standard score.	Sample No. .... score.	Sample No. .... score.	Sample No. .... score.	Sample No. .... score.	Sample No. .... score.
1. Weight per bushel	25					
2. Plumpness and quality	20					
3. Uniformity and purity	20					
4. Color	10					
5. Market condition	25					
Total points	100					

EXPLANATION AND RULES OF SCORE CARD.

An exhibit must consist of at least 1 peck and 12 selected seed heads according to the method described for wheat.

WEIGHT PER BUSHEL.

The standard weight in Minnesota is 32 pounds per bushel. By means of a patent weighing kettle or by taking a 4-quart measure of the grain and getting its weight on grocery scales, then multiplying by 8, the weight per bushel can be obtained.

RULE.—*Cut 2 points from the score card for each pound less than the standard weight per bushel* (*32 pounds*). Thus if the sample weighs 30 pounds per bushel, it would score only 21 points.

PLUMPNESS.

This character must be observed very closely, as the eye is easily deceived by the hull being well rounded out. It frequently happens that two kernels are inclosed within one hull. This makes the hull appear very plump, but in reality it is the opposite. One good way to judge plumpness is to squeeze a handful of the oats. If they do not spring much, they are well filled. Look closely at the tip of the hulls. If they are short and broad, they indicate plumpness, but if they are rather slender and pointed, the seed is either wanting or it is very small and poorly filled.

RULE.—There is no set rule by which the plumpness may be scored. The judge should look carefully for poorly filled hulls, double seeds, etc. *Then cut the score card about what he thinks the sample lacks of being perfect in plumpness.*

UNIFORMITY AND PURITY.

The uniformity of the kernels is very important in oats for seeding and in determining the purity of the breed represented. All the seeds should be of the same general size and of an even color and should all be of the shape that represents the variety.

RULE.—As in the case of plumpness, there is no definite rule by which to score. The judges must estimate the relative number that are not like the majority and *cut the score card accordingly.*

COLOR.

No matter what the color of the sample is, every seed should be of the color that represents the variety. A white variety should not be mixed with yellow or black or gray kernels, nor should a black variety have any but black kernels. The color should also be bright and clear.

RULE.—*For every five kernels of another color or variety cut 1 point on the score card. Also cut some for discolored or bleached kernels.*

MARKET CONDITION.

Under this head are considered bad kernels, dirt, foul weed seed, maturity, etc. There is no excuse for oats being dirty or foul, therefore the market condition should be thoroughly examined and scored severely.

RULE.—The judging of this point is very similar to that of plumpness. After inspecting the sample carefully, *cut the score in proportion to the relative amount of dirt, poor or defective kernels, etc.* If, for example, the sample has some dirt and weed seeds in it and shows signs of having been wet or has a good many bad kernels, *it could be cut to 20 points or more,* depending upon the amount of the dirt, etc.

If it is difficult to tell how much dirt, etc., there is in the sample, get a sieve and sift out the dirt. *Then weigh it and cut the score accordingly.*

SCORE CARD FOR COTTON.

[Used in Georgia.]

For judging cotton in the school contest for prizes for best exhibits of at least five cotton plants grown under prescribed conditions.

	Points.		
1. Plant:			
Size, medium to large	6	....	....
Form, spreading conically	6	....	....
Well jointed and developed branches	4	....	....
Properly shaped and filled head or center	4	....	....
2. Prolificacy:			
Number of bolls	10	....	....
Trueness to variety type of arrangement of bolls, singly or in clusters	5	....	....

	Points.		
3. Bolls:			
Size, large	5		
Form, true to type	5		
Opening, good, fair, poor	5		
4. Total yield of seed cotton	20		
5. Per cent of lint to seed	20		
6. Lint:			
Length	2.5		
Fineness	2.5		
Purity	2.5		
Uniformity	2.5		
Total	100		

Name of scorer.......................... Date.......... Place..................
Sample No. .... Rank..........
Name of contestant (filled in after contest)..

DIRECTIONS FOR JUDGING COTTON.

1. THE PLANT.

On the score card as suggested the ideal plant is given a rating of 20 points. In judging the exhibits in contests cuts should be made more severe as the plant departs further from the standard.

For plants departing only slightly from the variety standard as to size a cut of 1 to 2 points should be made. If this departure is very marked, a cut of 4 points may be made. For less than three or more than four lower long branches cut 1 point for each unit of departure. If these branches are defective either in total length or in diameter of the stem, cut from 1 to 3 points as the departure may be more or less pronounced.

For excessively long joints and poorly placed and developed branches cut a maximum of 3 points. For slight defects in these respects cut from one-half to 2 points.

For a well-opened or vase-shaped head admitting light and air in abundance allow 4 points as the perfect score. When the head is full on account of superb abundance of long upright branches, cut a maximum of 3 points. As these faults are less pronounced, reduce the cuts until for slight defects on these accounts a maximum cut of 1 to 2 points should be given.

2. PROLIFICACY.

In considering the fruitfulness of a plant or set of plants the term prolificacy can be used only in a relative sense. The plant possessing the greatest number of bolls should be given a rating of 10, or perfect, in this respect, while others should be cut more or less severely as the number of bolls they bear fall below that of the standard. The single or cluster arrangement of bolls should vary with the typical habit of the variety. Some varieties are cluster bearers, while others are noted for bearing bolls singly. Uniformity in which the bolls are arranged on any exhibit should be made the standard. Give an exhibit absolutely uniform in this respect 5 points. As others are more or less irregular in this respect cut from 1 to 4 points on the score card.

3. BOLLS.

Next in importance to prolificacy or number of bolls is their size, shape, and manner of opening. Large bolls yield more cotton per boll than do small ones. There is also a difference in the average size of the bolls on different plants of any single variety. The preference should be given to the plants bearing the larger bolls, provided, of course, the increase in size fully compensates for the decrease in number. Let the judges of any set of exhibits strike an average in size of the bolls on three of the largest bolled stalks shown and use this as the standard. Now, as plants are judged for size of bolls, where bolls are only slightly below the standard cut from one-half to 1 point. As this departure becomes more marked the cuts should be more severe until the maximum cut of 4 points should be made for a plant whose bolls are less than one-half the standard size.

The shape or form should be true to the particular variety shown. Uniformity in shape or form in plants and fruit shows good breeding and also suggests ability to transmit desirable qualities to the progeny. Consequently it is of value to the plant breeder. Give the plant whose bolls are all of one form or shape consistent with that of the variety a rating of 5 points. As the bolls are of different shapes cut from 1 to 4 points, as the number departing greatly from the variety shape increases.

The way in which the mature bolls open is of importance. The opening should be such as to make the cotton easy to pick, but at the same time it should not be such as to cause easy shedding of lint. For the best opening bolls give the plant a rating of 5 points. If the opening is only fair make a cut of from 1 to 2, and when it is poor cut from 3 to 4 points.

4. YIELD OF SEED COTTON.

Yield of seed cotton, while depending on the qualities already discussed—that is, the right kind of a plant and a sufficiently large number of bolls of good size and shape—should have considerable weight in fixing the value or superior rating of any cotton exhibit.

After the exhibit has been rated as to prolificacy and size of bolls, select a fixed number, say ten average-sized bolls, already opened, pick the seed cotton from them, determine the yield, and then with this average calculate the yield from the entire ten plants constituting the exhibit. Give the best yielding lot a rating of 20 points. Then as others yield less and less give them a maximum of 15 points.

5. PERCENTAGE OF LINT.

After the total yield has been rated attention must be given to the percentage of lint produced by the different lots of cotton to be judged. This is given a possible rating of 20 points, which should be assigned only to samples showing not less than 35 per cent of lint to seed cotton. For each and every 1 per cent below 35 the sample should be given a cut of 1 point. Thus if a sample should show only 25 per cent lint it should receive a cut of 10 points, which, deducted from the possible score of 20 points indicating perfection, leaves only 10 points to the credit of the sample.

The percentage of lint should be determined by taking the contents of a few bolls from each sample, placing them in the sun, or, better, a dry room for a period sufficiently long to bring the samples to a uniform point of dryness, after which the lint should be removed from the seed by hand, and each should be carefully weighed and the percentages calculated.

6. QUALITY OF LINT.

Quality of lint is assigned a possible rating of 10 points on the score card. These are divided up as follows: Length, 2½ points; fineness, 2½; purity, 2½; uniformity as to length, fineness, purity, and freedom from faulty fibers, 2½ points. Of course, these scores are intended only to offer means or standards by which the different exhibits may be compared. Therefore when points arise about which there seems to be uncertainty the most perfect sample can well be given the highest score obtainable for that point; then the others should be rated as they approach the standard fixed by this better sample. Thus, for the longest lint give two and a half points, the same for the finest, for that showing the greatest degree of purity, and for that showing the greater uniformity. Then as other samples fall short in any one or all these respects, cut accordingly.

The score card above suggested is not intended as a final and inflexible yardstick by which the merits of cotton of various types shall be measured throughout years to come, but rather as a temporary one to be used only until a better and more suitable one is suggested.

Record Blank for Cotton.

The following blank is prepared for outlining a brief history of the plat, noting fertility of the soil and the method of preparation of the seed bed, etc. The keeping of this record will be of value to the boy who makes it, and it is to accompany the exhibit in the contest. It must be approved by the boy's teacher and commissioner as a guarantee that the conditions of the contest have been complied with.

1. Name of contestant..
2. Area of field....... Kind of soil, loam, sand, clay, black, red, brown, gray......
3. Variety of crops grown on the field in 19—........., 19—........., 19—.........
4. Preparation of soil.......................... Manner............................
5. Fertilizers, amount..............., kinds............. How applied............
6. Variety of cotton planted..
7. Date of planting................ Date of first plant up................ Date of first cultivation................ Date of chopping or thinning................
8. Distance between rows................ Between plants in the row...............
9. How many times cultivated...................... Method.......................
10. Date of first bloom................ Date of first boll opening................ Date of first picking.............. Second.............. Third............
11. Weight of seed cotton each picking...

Approved:

——— ———,
County School Commissioner.

——— ———,
Teacher.

Rule out all exhibits not accompanied by this record properly filled out.

ORDER OF TOPICS FOR GIRLS' INSTITUTE (BREAD).

The Indiana farmers' institute has also suggested the following special topics for a season's meetings of girls:

First meeting.—Winter and spring wheat—where grown, characteristics, and uses. The clubs should have samples of each for study and comparison.

Second meeting.—Burr, roller process, and whole wheat flour—their charactertistics, composition, and uses. The club should have and carefully examine samples of each kind of flour.

Third meeting.—Yeast—its nature and uses in bread-making; effect of temperature on growth of yeast plants; hops in homemade yeast; wild yeast. Members will bring samples of homemade yeast mixtures, and also commercial yeast.

Fourth meeting.—Bread—ingredients, mixing, raising, kneading. Study and use of score card. A loaf of bread is needed for demonstration.

Fifth meeting.—Baking bread—the objects; time and temperature for; effect of over and under baking; general appearance; form; size; color of crust and crumb of a well-baked, standard loaf of bread. Members will each bring a loaf of white yeast bread baked a day before and each will score one or more loaves of bread.

Sixth meeting.—Bread—examination and sampling of loaves of bread baked by the members the day before with mutual criticism. A second exercise by the members in judging bread by the score card.

GIRLS' BREAD CONTEST REQUIREMENTS.

In girls' clubs it is imperative to divide the members for contest purpose into two classes, since it is obviously unjust to expect or allow girls from 15 to 18 years of age to compete with those from 8 to 14. The by-laws respecting bread contests may conveniently be as follows, which will serve as a guide for other subjects, such as canning and preserving fruit, sewing, etc.

[Used in Indiana.]

1. Each contestant shall agree to bake at least 25 individual loaves of bread between the 1st of May and the 1st of November.
2. Each contestant shall agree to exhibit two loaves of bread at the annual show.
3. Each contestant shall do all the work without any outside help.
4. Each contestant shall keep a record of the details concerning the work done. (See record card below.)
5. Each contestant shall write an essay, of not over 400 words, giving record of number of loaves baked in summer, kinds of flour used, sources and kinds of yeast, the manner of baking, cooling, and the storing of bread, and the length of time required for each process in bread making.
6. Each contestant shall agree to write a second essay of not over 400 words on the history of bread, bread as made in other countries, what yeast is and how it grows, the manufacture of flour, the difference between hard and soft wheat flour, the quality of a loaf of bread as affected by the wheat and the flour entering into its composition.

RECORD CARD (BREAD).

The following record should be carefully kept and filled out by each contestant:

(1) Receipt in full.
(2) Manner of making:
    (*a*) Kind of yeast used.
    (*b*) How long was dough rising before molding into loaves?
    (*c*) What was temperature of dough when set to rise?
    (*d*) How long rising the second time?
(3) Was oven very hot when bread was put in to bake?
(4) How long baked?
(5) How cooled?

COOKING.

The following card for scoring bread, together with its explanation, is offered as a suggestion to be followed or modified as is expedient in each case, and will serve as a guide to the preparation of score cards for other subjects in home economics. It is the card used by the department of household economics in Purdue University:

SCORE CARD FOR JUDGING BREAD.

	Standard.	Score.
Baking:		
Thoroughness	20	....
Color (shade 6, evenness 6)	12	....
Shape	8	....
Taste:		
Sweetness	25	....
Flavor	15	....
Appearance of crumb:		
Texture, quality	8	....
Fineness	4	....
Evenness	3	....
Color	5	....
Total	100	....

EXPLANATION OF SCORE CARD.

In judging by a class there should be a careful explanation to the class of the meaning of each point on the score card. The loaf should be judged as to its external appearance before being cut. The first point noted after cutting should be in regard to the thoroughness of baking, then second as to sweetness, third as to flavor, and after this the other points concerning texture, etc. The bread should then be scored by the official in charge and an explanation of the reasons for her scoring should be given.

The bread should be so completely baked that when pressed upon it will immediately spring out upon release of pressure. The color should be golden brown top, sides, and bottom. The bread should be baked in individual pans, size 9 by 4½ by 2¾ inches. The last measure is the depth. The loaf should be evenly raised in the pan, with no cracked, protruding, or uneven crusts.

There should be no trace of acidity in the taste, nor should there be distinct sweetness due to sugar, and the flavor should be rich and nutty. The bread when cut should have soft, velvety texture, all harshness absent. It should slice smoothly without crumbling. The holes should be numerous and small and of uniform size. Occasional large holes are a serious fault. The color of the crumb should be slightly creamy white in white bread and a light even brown in whole-wheat bread.

O